

Novel use of FaceTime video calling in a deployed setting to assist with the care of a military working dog

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SUMMARY

In deployed settings, veterinary recourses are limited and nonveterinary medical providers frequently are required to provide medical treatment to military working dogs (MWDs) until veterinary specialty care can be provided. We present the case of a critically ill MWD who presented initially to a Canadian NATO Role II facility in Iraq that lacked immediate veterinary support. Through the use of FaceTime interactive video calling, the Role II medical providers were able to consult with the MWD unit's veterinarian in the United States and provide effective evaluation, treatment and prioritization of medical evacuation (MEDEVAC). FaceTime video calling was extremely effective and should be considered in future situations where specialist care is not immediately available and transmission of visual information would be beneficial.

Military working dogs (MWDs) are frequently being used in combat theatres to support a wide range of operations, including direct action raids and identification of explosive materials. In current deployed theatres, it is common to have many MWDs stationed in geographically separated areas with only one or two veterinarians providing support for the entire theatre. As a result, medical providers are frequently called on to provide initial stabilization and management of MWDs who are injured or become sick while deployed. Unfortunately, most formal medical education does not provide training in the care of MWDs, and providers frequently have to depend on unit-specific training to prepare them to take care of MWDs. Because of this, providing care to MWDs in the absence of a trained veterinarian frequently causes anxiety for medical staff who care for animals on an extremely infrequent basis. With the proliferation of off-the-shelf communications technology, even remote areas where NATO forces are deployed frequently have access to the Internet and Wi-Fi technology.

CASE PRESENTATION

A 6-year-old labrador retriever multipurpose MWD was transferred from a remote outstation to a Canadian Role II medical facility that lacked organic veterinary capability. According to the report from the outstation medic, the dog was "not acting right" and had decreased oral intake. Because of the concern for sepsis, the outstation medic sent the MWD to the Role II facility for evaluation. On arrival, the MWD handler reported a gradual decline in mental status, activity and oral intake over the preceding eight days. A physical examination showed an acutely ill MWD with normal vital signs. The dog was awake and alert with normal strength in all four extremities, but had experienced a general decrease in the level of alertness. The remainder of his physical examination was within normal limits. The initial impression of the Role II medical team



Fig. 1. Rectal exam performed on a military working dog while the unit veterinarian in the United States, using FaceTime, explained expected anatomical differences.

was that the dog was critically ill, but the cause of his condition was uncertain. Using the Role II facility's commercial Internet connection and a virtual private network, an encrypted FaceTime video call was made to the MWD unit veterinarian in the United States. The Role II medical team presented the dog on FaceTime, and the unit veterinarian was able to visually evaluate him. After this initial evaluation on FaceTime, the veterinarian agreed with the Role II medical team's concern that the dog was critically ill. Through the FaceTime video call, the unit veterinarian was able to help coordinate care for the MWD. She requested laboratory studies and plain radiographs and was able to coach the laboratory and radiology technicians on human/MWD differences in laboratory/radiologic parameters. Furthermore, she requested a rectal exam to evaluate for prostatitis, and she was able to talk the emergency physician through anatomical differences in the procedure in real time (Fig. 1).

After all laboratory and radiologic tests were performed, the team used FaceTime to decide on a care plan that included antibiotic therapy and intravenous fluids to treat for possible sepsis and dehydration. Because of the dog's appearance, the team decided to urgently transfer him via MEDEVAC to Germany for further testing and follow-up care. A formal request, including a written description of the dog's condition, was placed to the Theatre Patient Movement Requirement Center (TPMRC). Unfortunately, the written

description was unable to appropriately convey the severity of the dog's clinical condition, and when the written request was evaluated by the TPMRC medical staff the MEDEVAC priority was downgraded. Furthermore, when only verbal communication occurred between the MWD unit's veterinarian and the TPMRC theatre veterinarian, the theatre veterinarian felt that MEDEVAC to Germany was premature. On arrival to the Role II facility, and after evaluation of the dog, the theatre veterinarian reversed her assessment and agreed that he was critically ill. Moreover, after evaluating him, the theatre veterinarian felt that he required critical care transport en route to Germany. After substantial coordination effort, the theatre veterinarian accompanied the dog, who was urgently transferred via MEDEVAC to Germany, where a computed tomography scan showed a large meningioma with midline shift. The dog was eventually transferred by MEDEVAC back to the home station, where follow-up care was coordinated.

DISCUSSION

The use of FaceTime to assist in the evaluation and care of this MWD was exceedingly helpful. During the initial stabilization and evaluation, when no veterinarian was physically present, FaceTime greatly facilitated the care of the MWD. In this instance, there was a great disconnect between the verbal description of the dog and the visual impression that ultimately proved to be accurate. The only

data point that TPMRC and the theatre veterinarian lacked when they downgraded the dog's MEDEVAC category was the visual information that FaceTime was able to communicate accurately.

Although NATO medical units have established telemedicine services, these consultation services primarily use written or verbal communication and lack the transmission of visual information. A PubMed search revealed several reports of video calling to assist with a wide variety of civilian telemedicine services. The primary use of video calling is management of chronic diseases in developed countries,¹ but authors have also reported video calling in settings such as remote ophthalmologic care² and remote interpretation of coronary angiograms.³ In addition, there are reports of video calling to facilitate procedures such as ultrasonography⁴ and endotracheal intubation.⁵ Although the US military has conducted feasibility testing on the use of commercial video calling in telemedicine, our search of PubMed did not yield any reports of real-world experience in the deployed setting.

CONCLUSION

Given that NATO forces are more frequently working in austere expeditionary settings where medical specialties are frequently unavailable, and given the spread of Internet technology to rural settings, the use of video

calling for virtual consultations has the potential to improve care in the deployed setting.

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